IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121:

1.   (currently amended)   A method for determining a location of an object within an area of interest, comprising:

transmitting wireless signals from a plurality of objects to at least three receivers;

transmitting signals from a plurality of beacon transmitters to the at least three receivers, each of said plurality of beacon transmitters being at a known location and having an independent local clock;

calculating, at each of the at least three receivers, a plurality of time differencedifferences of arrival informationdata based on respective signals from said plurality of beacon transmitters and the wireless signals transmitted from the plurality of objects; and

determining a location of at least one of the plurality of objects within said area of interest based on said plurality of time differencedifferences of arrival informationdata from said at least three receivers.

2.   (original)   The method of claim 1, wherein said wireless signals comprise RF signals.

3.   (original)   The method of claim 2, wherein said RF signals comprise UWB signals.

4.   (original)   The method of claim 3, wherein said UWB signals comprise TR-UWB signals.

5.   (original)   The method of claim 1, wherein the step of determining a location of the object comprises using a least squares algorithm.

6.-7.   (canceled)

8.   (currently amended)   The method of claim 3, wherein said UWB signals comprise TR/DH UWB signals; and wherein the step of transmitting TR/DH UWB signals comprises generating pairs of pulses separated by a time interval D and encoding by relative polarity of pulses of said pairs; and wherein the step of calculating time difference of arrival ~~information~~ data comprises delaying received signals by the time interval D.

9.   (original)   The method of claim 8, wherein the step of transmitting further comprises generating the pairs of pulses at a pulse repetition rate which is variable in order to shape a spectrum of transmission.

10.   (original)   The method of claim 8, wherein the TR/DH UWB signals are transmitted from a plurality of objects, each TR/DH UWB signal having a different time interval D between pulses of said pairs.

11.   (original)   The method of claim 10, wherein the step of transmitting the UWB signals further includes transmitting medical information of said patient with the UWB signals.

12.   (original)   The method of claim 3, wherein the step of transmitting the UWB signals is performed by a transmitter carried by a patient, and wherein said area of interest is a medical facility.

13.   (original)   The method of claim 3, wherein the step of transmitting the UWB signals is performed by a transmitter attached to medical equipment, and wherein said area of interest is a medical facility.

14.   (currently amended)   A system for determining a location of an object within an area of interest, comprising:

a mobile device carried by each of a plurality of objects, said mobile device including a transmitter for transmitting a wireless signal, the wireless signal comprising a TR/DH UWB RF signal;

at least three base stations within said area of interest, each of said at least three base stations comprising a detector for detecting the wireless signals transmitted from a plurality of said mobile devices, and further comprising a processor for deriving time difference of arrival information based on the wireless signals, the detector comprising a pulse-pair correlator; and

a controller for determining the location of at least one of the objects within said area of interest based on the time difference of arrival information calculated by each of the three base stations.

15.-18. (canceled).

19.   (currently amended)   The system of claim [[18]]14, wherein said transmitter transmits said TR/DH UWB signals having a variable pulse repetition time.

20.   (original)   The system of claim 14, wherein at least one of said objects is a patient and said area of interest is a medical facility.

21.   (original)   The system of claim 14, wherein at least one of said objects is medical equipment and said area of interest is a medical facility.

22.　　(currently amended)　The system of claim [[15]]14, wherein the transmitter of the mobile device transmits medical information of said patient with the RF signal.

23.　　(currently amended)　A method for determining a location of an object within an area of interest, comprising:

receiving a plurality of wireless signals from a plurality of objects, the plurality of wireless signals received by at least three receivers, the signals comprising pair of pulses separated by a time interval D; and

determining a location of at least one of the objects within said area of interest based on time difference of arrival information calculated at each of the at least three receivers, said calculation of time difference of arrival information based on the plurality of wireless signals delayed by the time interval D.

24.　　(new)　A system for determining a location of an object within an area of interest, comprising:

a mobile device carried by each of a plurality of objects, said mobile device including a transmitter for transmitting a wireless signal;

at least three base stations within said area of interest, each of said at least three base stations comprising a detector for detecting the wireless signals transmitted from a plurality of said mobile devices, the detector comprising a pulse-pair correlator and each of said at least three base stations further comprising a processor for deriving time difference of arrival information based on the wireless signals; and

a controller for determining the location of at least one of the objects within said area of interest based on the time difference of arrival information calculated by each of the three base stations.

25.   (new)   The method of claim 23, wherein said wireless signals comprise TR/DH UWB RF signals.

26.   (new)   The method of claim 23, wherein the step of determining the location of the at least one of the objects comprises using a least squares algorithm.

27.   (new)   The system of claim 24, wherein said wireless signals comprise TR/DH UWB RF signals.

28.   (new)   The system of claim 24, wherein said transmitter transmits said wireless signals having a variable pulse repetition time.